IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Christian W. Bohm et al. **GROUP:** Unknown

SERIAL NO: Continuation application of Ser. No.09/262,589 **EXAMINER:** Unknown

FILED: Herewith

FOR: SYNCHRONIZATION PULSE DETECTION CIRCUIT

Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

Preliminary to examination, please amend the above-identified application as follows:

IN THE CLAIMS:

Please cancel claims 1-16.

Please add new claims 17-28 as provided on the clean copy of the claims provided herewith.

REMARKS

Examination on the merits is requested.

Respectfully submitted,

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CLAIMS

17. A synchronization pulse detector, comprising:

an absolute value independent shape detector for processing samples of an input signal having a synchronization pulse and a plurality of non-synchronization pulses to determine whether such samples have a predetermined sequence;

said predetermined sequence being a first, absolute value independent, non-time varying portion, followed by a first, absolute value independent, time-varying portion, followed by a second, absolute value independent, non-time varying portion, followed by a second, absolute value independent, time-varying portion, followed by a third, absolute value independent, non-time varying portion, one of the first and second, absolute value independent, time-varying portions having a positive slope and the other one of the first and second, absolute value independent, time-varying portions having a negative slope.

18. The detector as claimed in claim 17, wherein said absolute value independent shape detector produces a pulse when said predetermined sequence is detected.

19. A synchronization pulse detector, comprising:

an absolute value independent shape detector for processing samples of an input signal having a series of synchronization pulses and a plurality of non-synchronization pulses to determine whether such samples have a predetermined sequence;

said predetermined sequence being a first, absolute value independent, non-time varying portion, followed by a first, absolute value independent, time-varying portion, followed by a second, absolute value independent, non-time varying portion, followed by a second, absolute value independent, time-varying portion, followed by a third, absolute value independent, non-time varying portion, one of the first and second, absolute value independent, time-varying portions having a positive slope and the other one of the first and second , absolute value independent, time-varying portions having a negative slope;

said absolute value independent shape detector producing a shape detection pulse each time said predetermined sequence is detected; and

an evaluator responsive to the produced shape pulse detection pulses for determining whether such shape detection pulses are produced at a predetermined rate expected for the series of synchronization pulses.

20. A synchronization pulse detector, comprising:

an absolute value independent shape detector for processing samples of an input signal having a series of synchronization pulses and a plurality of non-synchronization pulses, each one of said synchronization pulses preceding a segment of the input signal

having non-synchronization pulses, to determine whether such samples have a predetermined sequence;

said predetermined sequence being a first, absolute value independent, non-time varying portion, followed by a first, absolute value independent, time-varying portion, followed by a second, absolute value independent, non-time varying portion, followed by a second, absolute value independent, time-varying portion, followed by a third, absolute value independent, non-time varying portion, one of the first and second, absolute value independent, time-varying portions having a positive slope and the other one of the first and second , absolute value independent, time-varying portions having a negative slope;

said absolute value independent shape detector producing a shape detection pulse and an associated value for the second, absolute value independent, non-time varying portion each time said predetermined sequence is detected; and

an evaluator responsive to the produced shape detection pulses and said associated values of said second, absolute value independent, non-time varying portions for determining whether one of said associated values of said produced second, absolute value independent, non-time varying portions is substantially higher, lower, or the same as a reference value derived from a previous segment of the input signal.

21. The detector as claimed in claim 20, wherein said evaluator includes a time window responsive to the produced shape detection pulses for determining whether said

shape detection pulses are produced at a predetermined rate expected for the series of synchronization pulses.

22. A method for detection of a synchronization pulse from an input signal having a plurality of non-synchronization pulses, comprising:

determining, absolute value independent, time-varying properties of the input signal having the synchronization pulse; and

detecting, from said determined, absolute value independent, time-varying properties of the input signal the presence of the synchronization pulse.

23. A method for detection of a synchronization pulse from an input signal having a plurality of non-synchronization pulses, comprising:

determining, absolute value independent, time-varying properties of an input signal having the synchronization pulse;

comparing the determined, absolute value independent, time-varying properties with absolute value independent, time-varying properties expected of the synchronization pulse; and

producing, based on the comparison, an output signal indicative of the detection of the synchronization pulse.

24. A method for detection of a synchronization pulse having a substantially non-time varying portion and a substantially time-varying portion, the method comprising:

determining, absolute value independent, time varying properties of one of the portions;

comparing the determined, absolute value independent, time-varying properties with absolute value independent, time-varying properties expected of the one of the portions of the synchronization pulse; and

producing, based on the comparison, an output signal indicative of the detection of the synchronization pulse.

25. A method for detection of a synchronization pulse within an input signal, such pulse having a substantially, absolute value independent, non-time varying portion and a substantially, absolute value independent, time-varying portion, the method comprising:

determining, absolute value independent, time-varying properties of the input signal to identify one of the portions;

comparing the determined, absolute value independent, time-varying properties with absolute value independent, time-varying properties expected of the one identified one of the portions of the synchronization pulse; and

producing, based on the comparison, an output signal indicative of the detection of the synchronization pulse.

26. A method for detection of a synchronization pulse within each of a sequence of input signals having a predetermined rate, such pulse having a substantially, absolute value independent, non-time varying portion and a substantially, absolute value independent, time-varying portion, the method comprising:

determining, absolute value independent, time-varying properties of each of the sequence of input signals to identify one of the portions of such one of the input signals;

comparing the determined, absolute value independent, time-varying properties with absolute value independent, time-varying properties expected of the one identified one of the portions of the synchronization pulse;

producing, based on the comparison, output signals indicative of the detection of the synchronization pulses of the sequence of input signals; and

comparing rate of production of the output pulses with the predetermined rate of the input signals.

27. A system for detecting a synchronization pulse within an input signal, such synchronization pulse having a substantially, absolute value independent, non-time varying portion followed by a substantially, absolute value independent, time-varying portion, the system comprising:

a waveform characteristic detector for producing a detection signal in response to a comparison between actual, absolute value independent, time variations in the input

signal and a predetermined, absolute value independent, time variation criterion representative of one of the portions of the synchronization pulse; and

a pulse generator for producing an output pulse in response to the detected signal produced by the waveform characteristic generator.

28. A system for detecting a synchronization pulse within an input signal, comprising:

an absolute value independent detector responsive to samples of the input signal for separating substantially an absolute value independent, non-time varying portion of the input signal from a substantially, absolute value independent, time varying portion of the input signal;

a timer for determining a time duration of one of the portions; and

a processor for detecting the synchronization pulse in response to the determined ti me duration.